

REMARKS

Claims 1-43 were previously pending in this application. By this amendment, claims 1, 3, 5, 8-11, 13, 14, 16, 17, 20, 21, 23, 28, 31, 33, 34, 36 and 40-43 have been amended solely for the purposes of clarification and to rewrite the objected-to claims in independent form. No claims have been added or withdrawn. As a result claims 1-43 are pending for examination with claims 1, 3, 5, 8, 9, 11, 13, 14, 16, 17, 19, 20, 21, 23, 27, 28, 31-34, 36, 39, 40, 42 and 43 being independent claims. No new matter has been added.

As an initial matter, it is noted that this is the application of Moniot, contrary to the statement in paragraph 1 of the Office Action that this is the application of Pascal.

The Examiner has objected to Figs. 1 and 3 of the drawings. Enclosed herewith are proposed drawing corrections in which Fig. 1 is designated as prior art and reference characters "cptr1" and "cptr2" are added to Fig. 3. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

The Examiner has objected to claims 41, 10, 5, 8, 13-14, 16, 31 and 43 because of various informalities. The claims have been amended to correct the informalities, and similar informalities in other claims have been corrected. Accordingly, withdrawal of the claim objections is respectfully requested.

The Examiner has rejected claims 39, 41, 27, 29-30, 8, 10, 16 and 18 under 35 U.S.C. §103(a) as unpatentable over Ito (US 6,005,868) in view of Gemar et al. (US 6,483,839). Claims 32, 37-38, 19, 24-26, 1-2, 4, 7, 11, 12 and 15 are rejected under 35 U.S.C. §103(a) as unpatentable over Ito in view of Gemar et al. as applied above, and further in view of Calvignac et al. (US 5,946,297). Claims 3, 5, 6, 9, 13, 14, 17, 20-23, 28, 31, 33-36, 40, 42 and 43 are indicated to be allowable if rewritten in independent form, including all the limitations of the base claims and any intervening claims.

Claims 3, 5, 9, 13, 14, 17, 20, 21, 23, 28, 33, 34, 36, 40 and 42 have been rewritten in independent form. Objected-to claims 31 and 43 were previously independent claims. Accordingly, these claims and the claims which depend therefrom are in condition for allowance.

Ito discloses a traffic shaping device which can control a cell sending rate using a common control circuit regardless of the number of cell buffers. As shown in Fig. 2, cells are stored in cell buffers 35₁-35_N provided for traffic signals having different shaping rates. Cell

buffer registers 41_1 - 41_N correspond to the cell buffers. An output time from an output time notice counter 43, which is incremented every cell period, is compared with values of cell output enabling time registers 48. One of the cell buffers is enabled to output the cell stored therein. Thereafter, the values of the cell output enabling time registers 48 are updated on the basis of the contents of cell output interval registers 52. Priority registers 51 regulate priorities of the cell buffers (Abstract).

Gemar discloses an apparatus and method for scheduling multiple and simultaneous traffic in an ATM communication system. Fig. 1 shows a traffic manager system including a scheduler 34, a timer 36, a global priority queue 38, a start FIFO memory 40, a schedule FIFO memory 42, an available bit rate manager 44, a segmentation unit 46, and a transmit FIFO memory 50 (col. 5, line 66 to col. 6, line 6). Global priority queue 38 shown in Fig. 2 includes a head pointer stored in a column 60 and a tail pointer stored in a column 62 for different priority levels 64A-64J (col. 7, lines 29-47).

Calvignac discloses a dual scheduling mechanism having a first scheduler, triggered by absolute time, for scheduling minimum service connections up to a rate corresponding to their reserved minimum bandwidth, a second scheduler and a queue of minimum service connection identifiers for communication between the two scheduling schemes (Abstract).

The rejected claims relate to methods and apparatus for controlling rates of concurrent digital transmissions and require first and second queues each having a plurality of locations. Indexes corresponding to data cells are written into locations in the first queue or the second queue. The locations in the first queue and the second queue are accessed and the indexes are manipulated, according to different embodiments, to achieve efficient transmission of the data cells.

It is respectfully submitted that Ito contains no disclosure or suggestion of first and second queues in which indexes corresponding to data cells are written. Instead, Ito discloses cell buffers 35_1 - 35_N which store the data cells themselves. Ito further discloses cell buffer registers corresponding to each of the cell buffers. The cell buffer registers include cell output interval, cell output enabling time and priority registers for the corresponding cell buffer. Ito contains no disclosure or suggestion whatever of writing indexes corresponding to data cells in first and second queues and manipulating the indexes as recited in Applicant's claims.

Gemar does not provide the teachings that are lacking in Ito. Gemar discloses a global priority queue including a head pointer and a tail pointer for different priorities. However, this is very different from using first and second queues in which indexes corresponding to data cells are written as claimed. Furthermore, Gemar contains no disclosure or suggestion of accessing locations in the first and second queues to control transmission of data cells, as defined by Applicant's claims.

Calvignac does not provide the teachings that are lacking in Ito and Gemar. In particular, Calvignac does not disclose or suggest using first and second queues in which indexes corresponding to data cells are written and accessing the first and second queues as claimed.

Based upon the above discussion, the rejected claims are clearly and patentably distinguished over Ito, Gemar and Calvignac, taken individually or in combination. For example, with regard to claim 1, the cited references contain no disclosure or suggestion of writing an index corresponding to a data cell into the first queue or the second queue according to priority, successively surveying the locations of the first queue at a rate corresponding to a cell transmission rate, transmitting the corresponding data cell if the surveyed location in the first queue contains an index, freeing the surveyed location and rewriting the index at the location in the first queue that is distant from the surveyed location by a value determined by the rate of the corresponding transmission, successively surveying the locations of the second queue and, if the surveyed location in the second queue contains an index, transmitting the corresponding data cell when the surveyed location in the first queue does not contain an index, freeing the surveyed location in the second queue and rewriting the index at a location in the second queue that is distant from the surveyed location in the second queue by a value determined by the rate of the corresponding transmission. The cited references simply contain no disclosure or suggestion whatever of a method for controlling the rates of concurrent digital transmissions as defined by claim 1. Since the cited references do not disclose or suggest first and second queues in which indexes corresponding to data cells are written, the references cannot disclose or suggest manipulation of the indexes as claimed.

The cited references are similarly lacking with respect to independent claims 8, 11, 16, 19, 27, 32 and 39, and the claims which depend therefrom. Accordingly, claims 1, 2, 4, 7, 8, 10-

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12, 15, 16, 18, 19, 24-27, 29, 30, 32, 37-39 and 41 are clearly and patentably distinguished over Ito, Gemar and Calvignac, taken individually or in combination.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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Docket No. S1022.80401US00
Date: January 21, 2004
x01/22/04xx